

## CLAIM + DETAILED DESCRIPTION

## [Claim(s)]

[Claim 1] The antimicrobial antifungal agent constituent characterized by including an antimicrobial antifungal agent ingredient, a synthetic resin, and the solvent containing lactate.

[Claim 2] The antimicrobial antifungal agent constituent according to claim 1 with which the content ratio of lactate is characterized by being 10 weight % or more to the constituent whole quantity.

## [Detailed Description of the Invention]

## [0001]

[Field of the Invention] Especially this invention controls the damage over a human body, and relates to the antimicrobial antifungal agent constituent which can perform antimicrobial mildewproofing effectively.

## [0002]

[Description of the Prior Art] Far-reaching various bacilli, such as bacteria, such as true bacilli, such as a soil bacillus which does not need a special nutrient, staphylococcus generated also at the dry place, Bacillus, and Serratia, were generated, and the bacillus which grows to structures, such as a residence, is growing. An antimicrobe and various antimicrobial antifungal agents for sterilizing are conventionally proposed in such various bacilli. Usually, an antimicrobial antifungal agent ingredient is diluted to the organic solvent, the method of sprinkling or applying is adopted, such a method of an antimicrobial antifungal agent is not enough as the effect duration, and, moreover, the bad influence [ as opposed to a human body by \*\*\*\*\*, such as an organic solvent after spraying and an application, ] of the actual condition is fatal. Importance is attached to an environmental problem, and, if possible, the bad influence to a human body is inhibited also in such an antimicrobial antifungal agent ingredient in recent years, and development of the antimicrobial antifungal agent which can long-term maintain an effect is desired.

## [0003]

[Problem(s) to be Solved by the Invention] The bad influence to a human body is inhibited, and the purpose of this invention can be used safely, and there is in offering the antimicrobial mildewproofing constituent which acts effectively to various bacilli and mold.

## [0004]

[Means for Solving the Problem] They found out that an antimicrobial mildewproofing operation was acquired effectively while being able to reduce the bad influence to a human body by making lactate contain as a solvent of an antimicrobial antifungal agent ingredient, as a result of this invention persons' repeating examination wholeheartedly, in order to solve the above-mentioned technical problem. That is, according to this invention, the antimicrobial antifungal agent constituent characterized by including an antimicrobial antifungal agent ingredient, a synthetic resin, and the solvent containing lactate is offered.

## [0005]

[Embodiment of the Invention] This invention is explained still in detail below. The antimicrobial mildewproofing constituent of this invention contains an antimicrobial antifungal agent ingredient, a synthetic resin, and a specific solvent as an essential ingredient.

[0006] It will not be limited, especially if growth of bacteria and a true bacillus (mold) is prevented or it

sterilizes as an antimicrobic antifungal agent. Usually, use is desirable although there is no toxicity over a human body. Specifically 2-(4-thiazolyl) vent imidazole, N, and N-dimethyl N'- phenyl N'-(fluoro dichloro methylthio) sulfo amide, 1-(diiodomethyl) (sulfonyl)-4-methylbenzene, dichloro full ANIDO, dichlorophenyl, or these mixtures are mentioned. Moreover, octyl trimethylammonium chloride, decyl trimethylammonium chloride, Dodecyl trimethylammonium chloride, tetradecyl trimethylammonium chloride, Hexadecyl trimethylammonium chloride, octadecyl trimethylammonium chloride, Octadecenyl trimethylammonium chloride, octadecadienyl trimethylammonium chloride, Dioctyl trimethylammonium chloride, JIDESHIRU trimethylammonium chloride, Didodecyl trimethylammonium chloride, ditetradecyl trimethylammonium chloride, JIHEKISA decyl trimethylammonium chloride, dioctadecyl trimethylammonium chloride, Alkyl methylanmonium chloride, such as JIOKUTA decenyl trimethylammonium chloride and JIOKUTADEKA dienyl trimethylammonium chloride, can be used. The brand name "ARQUD C-50" as a commercial item, "ARQUD S-50" (made by lion Akzo, Inc.), etc. can be used for these.

[0007] In the constituent for insect control of this invention, the blending ratio of coal of an antimicrobic antifungal agent can be suitably chosen according to the kind of antimicrobic antifungal agent etc., and can be used in a quantity required to usually acquire the antimicrobic mildewproofing effect. It can blend in 2.4 to 2.6weight % of the range into a constituent preferably especially 2.0 to 3.0weight % into a constituent.

[0008] The synthetic resin used in the antimicrobic antifungal agent constituent of this invention fixes this constituent to a structure, it is an ingredient which acts so that an antimicrobic mildewproofing operation may be maintained for a long period of time, and the resin usually used for oiliness other than the well-known vinyl chloride system used for a building etc. or distemper can be used for it. For example, an epoxy resin, polyamide resin, alkyd resin, vinyl acetate system resin, an acrylic resin, oil system resin, etc. are mentioned, and it can blend when using it as the oiliness containing a solvent or distemper. Moreover, after fixing the constituent for insect control to a coated object, use of the resin which has a water-repellent effect is desirable in order to prevent exfoliation etc. For example, dimethyl silicone oil, methyl high draw diene polysiloxane, the Silang system repellents (brand name "toss barrier" (Toshiba silicon incorporated company make --)), such as methylphenyl silicone oil Silang system silicone resin, a brand name "Aqua seal" (the SUMITOMO SEIKA CHEMICALS CO. LTD. make, alkyl siloxane resin); the mixture (a brand name "the KEMISU top", Mitsui Sekka Engineering Co., Ltd. make) of an epoxy resin, polyamide resin, and a solvent etc. can be mentioned. In the antimicrobic antifungal agent constituent of this invention, the blending ratio of coal of a synthetic resin can choose suitably the quantity which can fix an antimicrobic antifungal agent constituent to a coated object according to the kind etc. Combination of this synthetic resin usually has 13.0 to 16.0weight % of a range preferably desirable at synthetic resin conversion 10.0 to 20.0weight %, when blending a paint and a commercial item.

[0009] The solvent blended with the antimicrobic antifungal agent constituent of this invention contains lactate as an indispensable solvent. It is not known that this lactate shows the compatibility which was known as a food additive and a flavoring and which blended with the antimicrobic antifungal agent, the pesticide, etc. conventionally, and was excellent although safety was very high. As lactate, lactic acid alkyl, such as ethyl lactate, methyl lactate, and butyl lactate, is mentioned, for example. as said solvent -- lactate -- although it may be independent, the solvent usually contained as the solvent currently used for the antimicrobic antifungal agent, a paint of said synthetic resin, etc. is contained. As solvents other than

lactate, ethanol, isopropyl alcohol, 2-phenoxyethanol, xylene, xylol, acetone, mineral spirit, etc. are mentioned, for example. However, as for the amount of organic solvents used other than these lactate, from an environmental side, stopping as much as possible is desirable. Moreover, in order to raise the compatibility of said antifungal agent ingredient and a synthetic resin, use of 2-phenoxyethanol is desirable and, as for the blending ratio of coal in the case of blending this 2-phenoxyethanol, 1.0 to 2.0 weight % is desirable to the constituent whole quantity.

[0010] The blending ratio of coal of the solvent blended with the antimicrobic antifungal agent constituent of this invention can be suitably determined according to the kind and the blending ratio of coal of the above-mentioned antimicrobic antifungal agent ingredient or a synthetic resin. Usually, it is 45 to 55 weight % preferably 35 to 72 weight % in a constituent. Moreover, in order to prevent condensation of an antimicrobic antifungal agent ingredient etc., as for the blending ratio of coal of lactate, it is desirable to blend at 13 to 40 weight % of a rate preferably 10 weight % or more into a constituent.

[0011] It is also possible to add the various additive agents used for an antimicrobic antifungal agent in the antimicrobic antifungal agent constituent of this invention according to a request in addition to the above-mentioned essential ingredient.

[0012] The antimicrobic antifungal agent constituent of this invention can be used for the coated object of a structure by the method of making it contact and fix, for example. In order to contact an antimicrobic antifungal agent constituent to a coated object, for example, spraying, an application, etc. can perform and it can be made to fix with the blended synthetic resin by performing natural seasoning or compulsive drying by heating. The amount of fixation in particular is not limited, but can be chosen suitably.

[0013]

[Effect of the Invention] It can maintain an antimicrobic mildewproofing operation for a long period of time while the bad influence to a human body is inhibited and being able to use it safely, since the antimicrobic antifungal agent constituent of this invention contains an antimicrobic antifungal agent ingredient, a synthetic resin, and the solvent containing lactate without the toxicity over a human body as an essential ingredient.

[0014]

[Example] Although the example of reference and a work example explain this invention still in detail below, this invention is not limited to these.

The solubility to the various solvents of 2-(4-thiazolyl) vent imidazole which is an example of reference antimicrobic antifungal agent ingredient was measured. As a result, to the solubility to lactate having been 1.2 to 1.5%, in ethanol, it was 0.7 to 0.8%, and in isopropyl alcohol, it is 0.3 to 0.5%, and it turned out that lactate is excellent in the solubility over an antimicrobic antifungal agent ingredient.

[0015] As a work-example 1 antimicrobic antifungal agent, they are a 2-(4-thiazolyl) vent imidazole 0.6 weight part and a dichloro full ANIDO 2.1 weight part, As a synthetic resin part inclusion, a brand name "KEMISU top" (made by Mitsui Sekka Engineering Co., Ltd.) 15.0 weight part, Churning mixture of a butyl lactate 30.0 weight part, a xylene 7.5 weight part, an isopropyl alcohol 44.0 weight part, and the 2-phenoxyethanol 1.0 weight part was carried out at 40 degrees C as a solvent, and the antimicrobic antifungal agent constituent was prepared. The obtained antimicrobic antifungal agent constituent was sprayed on the common wall crossing side of SHIZUOKA PREFECTURE Tagata Koori \*\* good Teramachi's cottage, dryness fixation was carried out and generating of mold was observed for two

years. On the other hand, as contrast, commercial mildewproofing crossing was stuck on the wall used as the almost same environment of a cottage, and was similarly observed for two years. A result is shown in Table 1. In addition, evaluation made x what had generating of \*\* and mold in some which had generating of some mold in some which mold does not generate.

[0016] As a work-example 2 antimicrobial antifungal agent, they are a 2-(4-thiazolyl) vent imidazole 0.6 weight part and a dichloro full ANIDO 2.1 weight part, As a synthetic resin part inclusion, a brand name "KEMISU top" (made by Mitsui Sekka Engineering Co., Ltd.) 15.0 weight part, Churning mixture of a butyl lactate 26.5 weight part, an Aqua seal (Sumitomo Seika Chemicals Co., Ltd. make, brand name) 8.0 weight part, an isopropyl alcohol 47.0 weight part, and the 2-phenoxyethanol 1.0 weight part was carried out at 40 degrees C as a solvent, and the antimicrobial antifungal agent constituent was prepared. The obtained antimicrobial antifungal agent constituent was sprayed on the common wall crossing side of the apartment of Motoazabu, Minato-ku, Tokyo, dryness fixation was carried out and generating of mold was observed for two years. On the other hand, as contrast, commercial mildewproofing crossing was stuck on the wall used as the almost same environment of an apartment, and was similarly observed for two years. A result is shown in Table 1. In addition, evaluation was performed like the work example 1.

[0017] It sprayed on some diorama walls in Urayasu, Chiba, dryness fixation of the antimicrobial antifungal agent constituent prepared in the work-example 3 work example 2 was carried out, and generating of mold was observed for three years. On the other hand, contrast observed about the diorama wall which is not constructing the antimicrobial antifungal agent constituent. Evaluation was performed like the work example 1. A result is shown in Table 1.

[0018]

[Table 1]

	0.5 年後	1 年後	1.5 年後	2 年後	2.5 年後	3 年後
実施例 1	○	○	○	○	—	—
对照	○	△	×	×	—	—
実施例 2	○	○	○	○	—	—
对照	○	○	△	×	—	—
実施例 3	○	○	○	○	○	○
对照	○	○	○	△	×	×

[0019] As a work-example 4 antimicrobial antifungal agent, they are a 2-(4-thiazolyl) vent imidazole 1.0 weight part and a dichloro full ANIDO 1.5 weight part, Churning mixture of an ethyl lactate 46.5 weight part and the 2-phenoxyethanol 1.0 weight part was carried out at 40 degrees C as a solvent as a synthetic resin part inclusion with the brand name "KEMISU top" (made by Mitsui Sekka Engineering Co., Ltd.) 50.0 weight part, and the antimicrobial antifungal agent constituent was prepared. The obtained antimicrobial antifungal agent constituent was constructed in the outer wall of the dwelling in Sakura, Chiba. Since it was polluted with algae and black yeast, this outer wall performed construction by applying an antimicrobial antifungal agent constituent and drying after washing. Generating of mold was observed for two years. On the other hand, only in washing of an outer wall, generating of mold was similarly observed for two years after washing as contrast about the 3 contrast of the thing and the commercial mildewproofing paint which carried out germicidal treatment by benzal chloride

KONYUMU. A result is shown in Table 2.

[0020]

[Table 2]

	0.5 年後	1 年後	1.5 年後	2 年後
実施例 4	○	○	○	○
洗浄のみ	△	×	—	—
堊化ヘンザルコニューム	○	△	—	—
市販防カビ剤	○	○	△	×

[Translation done.]